REMARKS

Claims 1-16, 18-41 and 43-52 are pending. Claims 1, 2, 4-6, 9, 15, 18, 21-27, 29-31, 34, 40, 43 and 46-50 have been amended. Claims 17 and 42 have been canceled without prejudice to or disclaimer of the subject matter recited therein. Applicants respectfully request continued examination of the application in view of the aforementioned amendments and the following remarks.

Claim Rejection – 35 U.S.C. §102

Claims 21-25, 46-50 and 52 have been rejected under 35 U.S.C. §102(b) for allegedly being anticipated by U.S. Patent No. 6,263,023 to Ngai ("Ngai"). Applicants respectfully traverse the rejection for at least the following reasons.

Independent claim 21, as amended, recites an apparatus for redundant image decoding, the apparatus comprising:

> a picture header decoding unit which decodes picture header information comprising information required to decode encoded slices of an image divided into a plurality of regions, wherein at least one of the encoded image slices corresponds to each region of the image, and wherein a plurality of the encoded image slices corresponds to a redundantly encoded region of the image;

> a slice construction unit which determines structures and positions of the encoded image slices to be decoded according to the decoded picture header information;

> a slice decoding unit which decodes the encoded image slices according to the decoded picture header information; and

> an image construction unit which disposes image data of each decoded slice according to the determined structure and position of the slices and restores and outputs a decoded image.

Applicants disagree that Ngai "reasonably meets" the recitations of independent claim 21 (see, final Office action at page 2), and submit that Ngai does

not expressly or inherently describe each and every element of independent claim 21, as amended, as required for a finding of anticipation under 35 U.S.C. §102(b). (See, M.P.E.P. § 2131, citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987)).

Ngai describes a stream slicer 18 that allocates slices to slice decoders 16 based on the presence or absence of busy signals from the slice decoders 16, and a synchronizer 20 that controls the assembly of the decoded slices into a decoded frame. (See, Ngai at col. 4, lines 28-55). While Ngai describes video data encoded into data slices (see, Ngai at col. 3, lines 64-66), Ngai does not expressly or inherently describe an image divided into regions, where at least one encoded image slice corresponds to each region of the image and more than one of the encoded image slices corresponds to a redundantly-encoded region of the image, in accordance with independent claim 21, as amended.

Thus, because Ngai does not expressly or inherently describe each and every element of independent claim 21, as amended, Ngai does not anticipate claim 21. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. §102(b) of claim 21, and claims 22-25, which depend therefrom, be withdrawn. Further, for reasons analogous to those presented for claim 21, Applicants submit that Ngai also does not anticipate independent claim 46, as amended, and respectfully request that the rejection under 35 U.S.C. §102(b) of claim 46, and claims 47-50 and 52, which depend therefrom, be withdrawn.

Claim Rejection – 35 U.S.C. §103(a)

Claims 1-20, 26-45 and 51 have been rejected under 35 U.S.C. §103(a) for allegedly being unpatentable over U.S. Patent No. 5,949,490 to Borgwardt et al. ("Borgwardt") in view of Ngai. Applicants respectfully traverse the rejection for at least the following reasons.

Independent claim 1, as amended, recites an apparatus for redundant image encoding, the apparatus comprising:

> a slice modeling unit which divides image data of an image into a plurality of regions and determines which of the regions are to be redundantly encoded, and determines a structure for each of a plurality of slices to be used in encoding the regions of the image;
>
> a slice allocation unit which allocates each region of the image to at least one of the slices according to the slice structures, wherein the slice allocation unit allocates each of the regions to be redundantly encoded to more than one of the slices;
>
> a picture header encoding unit which encodes picture header information comprising information required to decode encoded slices of the image; and
>
> a slice encoding unit which encodes the allocated image regions into encoded slices according to the picture header information, wherein the slice encoding unit encodes the regions allocated to be redundantly encoded into more than one encoded slice.

Applicants submit that no combination of Borgwardt and Ngai teaches or suggests all of the claim limitations of independent claim 1, as amended. (See, M.P.E.P. § 2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). Borgwardt teaches processing sets of slices in parallel using "microrate" controllers for each slice. (See, Borgwardt at col. 3, lines 1-4 and col. 4, lines 55-57). The microrate controller encodes each macroblock in a current slice based upon target rates and quantizer scale factors passed to it by a master rate controller and actual

target rates and quantizer scale factors for preceding macroblocks in the slice. (See, Borgwardt at col. 4, lines 19-23). Applicants respectfully disagree with the Office's suggestion that the target rates and quantization scale factors "are applied in an efficient rate control encoding scheme that redundantly encodes image data." (See, final Office action at page 4, emphasis added).

At most, Borgwardt describes that "[e]ach slice may correspond to one horizontal section of the picture" (Borgwardt at col. 4, lines 16-17), but nowhere does Borgwardt teach or suggest an encoding scheme that redundantly encodes image data. In particular, Borgwardt does not teach or suggest determining which regions of an image are to be redundantly encoded, allocating each of the regions to be redundantly encoded to more than one of the slices, and encoding the regions allocated to be redundantly encoded into more than one encoded slice, in accordance with independent claim 1, as amended. Further, for at least the same reasons presented with respect to independent claim 21, Applicants submit that Ngai does not supply the teachings missing from Borgwardt.

For at least these reasons, Applicants submit that independent claim 1, as amended, is patentable over Borgwardt in view of Ngai. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. §103(a) of claim 1, and claims 2-16, 18-20, which depend therefrom, be withdrawn. Further, for reasons analogous to those presented for claim 1, Applicants submit that independent claim 26, as amended, is also patentable over Borgwardt in view of Ngai, and respectfully request that the rejection under 35 U.S.C. §103(a) of claim 26, and claims 27-41, 43-45 and 51, which depend therefrom, be withdrawn. Claims 17 and 42 have been canceled, thereby rendering the rejection of claims 17 and 42 under 35 U.S.C. §103(a) moot.

Conclusion

It is believed that this Amendment is accompanied by the required fees. However, if additional fees are required for any reason, please charge Deposit Account No. 02-4800 the necessary amount.
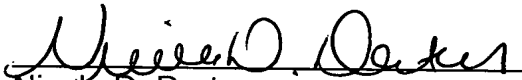
In the event that there are any questions concerning this paper, or the application in general, the Examiner is respectfully urged to telephone Applicants' undersigned representative so that prosecution of the application may be expedited.

Respectfully submitted,

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